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*Office Memorandum* • UNITED STATES GOVERNMENT

TO : Research and Development Branch, OC-E

DATE: 8 August 1958  
SEB 8-060

FROM : Systems Engineering Branch, OC-E

SUBJECT: Stacked YAGI Antenna

1. Two Stacked YAGI Antennas have been requested by SPD which are described in the attached memorandum. We are turning this project over to you by direction of Chief, Engineering Division because of your previous experience with a similar antenna.

2. This Branch has done some work on the project and we are including the following comments which may expedite the fulfillment of the requirement.

A. The bandwidth requirement has been discussed with SPD and they agree that it is quite stringent. They are willing to accept the best frequency response obtainable.

B. The tower is to be of the telescopic<sup>4</sup> crank-up variety. Brochures have been ordered from several manufacturers.

C. The manual rotations and polarization changes are to be made with the tower lowered and, therefore, do not present as much of a problem as it might seem.

3. For brochures or any further information contact

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Attachment:

Memo. #SPM 8-704 ✓

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STANDARD FORM NO. 64

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**Office Memorandum • UNITED STATES GOVERNMENT**

**TO :** Chief, Engineering Division, OC

SPM 8-704  
**DATE:** 19 June 1958

**FROM :** Chief, Supplemental Programs Division, OC

**SUBJECT:** Stacked Yagi Antenna

1. This Division has requirements for at least two stacked Yagi antennas containing four ten element arrays mounted two over two. The frequency range of operation is from 60 mcs to 70 mcs with the gain optimized at 65 mcs. The edges of the band should not be more than 2 db below the optimized point at 65 mcs.

2. Polarization should be changable by manually rotating the arrays from horizontal to vertical. Azimuthal rotation of 370° should be available by both electrical and manual means but not simultaneously. Certain applications will necessitate manual rotation whereas other installations will need electrically driven rotators.

3. A telescoping mast should also be provided with an extension length of at least fifty feet.

4. The antenna impedance should be 50 ohms at the input for use with 50 ohm transmission line coaxial cable.

5. From past experience with several manufactures of TV type antennas, we found that [ ] produces a highly desirable antenna because of its heavy duty welded type construction. We request, therefore, that you approach [ ] with a bid request for this antenna along the design of their Y-101 series. You may know that the [ ] antenna Y-101-4 is designed for 66-72 mcs operation which would require little modification to meet our needs.

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6. This request is being forwarded so that action can be taken in July 1958 with fiscal year 1959 funds. For further discussion, please contact [ ] of OC-SP/EA.

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[ ]

Acting

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Distribution:

Orig & 1 - Addressee

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